

The key element of the first example is the facility's willingness to use no visible emissions as an action level for taking corrective measures. If this had not been the case, further monitoring techniques would have been requested.

Example #1

Example Cyclone Agency Operation & Maintenance Plan

Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time, or the presence of a monitored abnormal condition. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the excursion to the department and conduct source testing within 90 days of the excursion to demonstrate compliance with applicable requirements. If the test demonstrates compliance with emission limits then new indicator ranges must be set for monitoring and the new ranges must be incorporated in the operating permit. If the test demonstrates noncompliance with emission limits, then the facility, within 60 days, proposes a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

Monitoring Methods & Corrective Actions

General

- Periodic Monitoring is not required during periods of time greater than one day in which the source does not operate.
- The facility will maintain a written record of the observation, deficiencies, and any action resulting from the inspections.
- Verify the rated gas flow rate for the cyclone and the actual gas flow rate for the system.
- Rated gas flow rate for the cyclone _____
- System gas flow range _____

Daily

- Visible emissions shall be observed on a daily basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed this would be an exceedence not a violation and action will be taken as soon as possible, but no later than 8 hour after the occurrence. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2 hour intervals throughout the day. If unsuccessful that day due to weather, an observation shall be made the following day. Maintain a written record of the observation and any action resulting from the inspection.

- The facility will record the daily pressure drops across the cyclone.
- Corrective action measures will be taken when the pressure drop deviates from its normal operating range. The normal operating ranges is (Select one):
- Low Efficiency cyclones 2-4 inches of water
- Medium Efficiency cyclones 4-6 inches of water
- High Efficiency cyclones 8-10 inches of water
- Other (List your own range)

Weekly

- Inspect the solids discharge valve for proper operation.
- Valve Type (Select one):
- Manual Slide ____ (list operating schedule for removal of solids from collecting tube)
- Rotary Valve ____
- Screw Feeder ____
- Double Flap ____
- Other (indicate what type) _____
- The facility will maintain a written record of the observation, deficiencies, and any action resulting from the inspection.

If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

Quarterly

- Inspect the structural components including the cyclone ductwork and hoods for leaks or component failure.
- The facility will maintain a written record of the observations, deficiencies, and any action resulting from the inspection.

If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

Annually

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be remove to ensure proper operation.
- Clean cyclone inlet vanes (ramps or spinners) and ensure they operate according to manufacture specifications.
- The facility will maintain a written record of the observations, deficiencies, and any action resulting from the inspection.

If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented before the system is returned to service.

Record Keeping and Reporting

- The facility will maintain a written or electronic record of all inspections and any action resulting from the inspections.
- The facility will keep maintenance and inspection records for five (5) years and will be available upon request.

Quality Control

- All instruments and control equipment will be calibrated, maintained, and operated according to the manufacture specifications.

Authority for Requirement: 567 IAC 22.108(3)"b"

Example #2

Example Cyclone Agency Operation & Maintenance Plan

Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time, or the presence of a monitored abnormal condition. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the excursion to the department and conduct source testing within 90 days of the excursion to demonstrate compliance with applicable requirements. If the test demonstrates compliance with emission limits then new indicator ranges must be set for monitoring and the new ranges must be incorporated in the operating permit. If the test demonstrates noncompliance with emission limits, then the facility, within 60 days, proposes a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

Monitoring Methods & Corrective Actions

General

- Periodic Monitoring is not required during periods of time greater than one day in which the source does not operate.
- The facility will maintain a written record of the observation, deficiencies, and any action resulting from the inspections.
- Verify the rated gas flow rate for the cyclone and the actual gas flow rate for the system.
 - Rated gas flow rate for the cyclone _____
 - System gas flow range _____

Daily

- Visible emissions shall be observed on a daily basis to ensure opacity does not exceed _____% during the material handling operation of the unit. If visible emissions are observed with an opacity greater than _____% but less than _____% this would be an exceedence not a violation and action will be taken as soon as possible, but no later than 1 hour after the occurrence. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2 hour intervals throughout the day. If unsuccessful that day due to weather, an observation shall be made the following day. Maintain a written record of the observation and any action resulting from the inspection.
- Record daily pressure drops across the cyclone.
 - Corrective action measures will be taken when the pressure drop deviates from its normal operating range. The normal operating ranges is (Select one):
 - Low Efficiency cyclones 2-4 inches of water.

- Medium Efficiency cyclones 4-6 inches of water.
- High Efficiency cyclones 8-10 inches of water
- Other (List your own range)

Weekly

- Inspect the solids discharge valve for proper operation.
 - Valve Type (Select one):
 - Manual Slide ____ (list operating schedule for removal of solids from collecting tube)
 - Rotary Valve ____
 - Screw Feeder ____
 - Double Flap ____
 - Other (indicate what type) _____
- The facility will maintain a written record of the observation, deficiencies, and any action resulting from the inspections.

If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

Quarterly

- Inspect the structural components including the cyclone ductwork and hoods for leaks or component failure.
- The facility will maintain a written record of the observation, deficiencies, and any action resulting from the inspections.

If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

Annually

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be removed to ensure proper operation.
- Clean cyclone inlet vanes (ramps or spinners) and ensure they operate according to manufacture specifications.
- The facility will maintain a written record of the observation, deficiencies, and any action resulting from the inspections.

If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented before the system is returned to service.

Record Keeping and Reporting

- The facility will maintain a written or electronic record of all inspections and any action resulting from the inspections.
- The facility will keep maintenance and inspection records for five (5) years and will be available upon request.

Quality Control

- All instruments and control equipment will be calibrated, maintained, and operated according to the manufacture specifications.
- Opacity reading for visible emissions must be accomplished using EPA Method 9 as described in 40 CFR 60 appendix A.